

# Congress of the United States

Washington, DC 20515

March 15, 2000

**VIA FACSIMILE: (202) 690-7203/(202) 334-3584**

The Honorable Donna Shalala  
Secretary, Department of Health and Human Services  
200 Independence Avenue, S.W.  
Washington, DC 20201

Dr. Bruce Alberts, President  
National Academy of Sciences  
and Chairman, National Research Council  
2101 Constitution Avenue, N.W.  
Washington, DC 20418

Dr. Kenneth I. Shine, President  
Institute of Medicine  
2101 Constitution Avenue, N.W.  
Washington, DC 20418

RE: National Academy of Sciences Study on Musculoskeletal Disorders (MSDs) and  
the Workplace; Award No. HHS-100-99-0001

Dear Madame Secretary and Drs. Alberts and Shine:

Please note our deep concern regarding the Panel on MSDs and the Workplace. Congress funded this study through \$890,000 appropriated to the Department of Health and Human Services under the Omnibus Spending measure for FY 1999.

To begin, our letter of May 28, 1999, requested updates on a quarterly basis. Moreover, your letter of June 18, 1999, expressed an intent to "keep your staff apprised of all aspects of this project on a regular basis...." Unfortunately, there has been no communication at all about how the panel is proceeding since the June 18 letter-- more than eight months ago.

Since the Panel was convened last May, only specific information gathering sessions have been open to the public, and one of these was not in the Washington area.<sup>1</sup> However, the discussions of the Panel for that meeting, as well as, all the other meetings were conducted out of view of the public. Although synopses of the meetings are posted on the NAS web site after meetings, these are so superficial as to be meaningless in terms of following the activities of the Panel. As this study is funded through federal taxpayer funds, there should be an opportunity to observe how the Panel is conducting itself and whether the Panel is proceeding consistent with the Congressional mandate.

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<sup>1</sup> This was a meeting held in Dearborn, Michigan on December 6-7 so that the Panel could review Ford Motor Company's ergonomics program.

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NAS held another meeting of the Panel on February 21-22. The summary posted on the NAS web site indicates that there was a presentation on economic influences that appears to have been open to the public. The Committee then went into a closed session where they discussed various issues relating to their report: "The panel and staff discussed the content and structure of their report manuscript and began reviewing each chapter outline and/or preliminary draft. [On February 22] the panel and staff continued to discuss the content and structure of their report and review chapter outlines and/or preliminary drafts. A preliminary discussion of findings, conclusions, and recommendations to be made in the final report was held." There was no notice given to the interested Congressional offices, or even outside parties. This was uncovered by someone randomly checking the NAS web site. This is yet another departure from the NAS promise to keep Congressional offices fully apprised.

The legislation passed by Congress and signed by the President mandating this study called for a "study of all the available *literature* examining the cause-and-effect relationship between repetitive tasks in the workplace and musculoskeletal disorders." (1999 Omnibus Appropriations Act, emphasis added) This language is explicit in that the Panel's efforts are to be focused exclusively on reviewing the literature, in an effort to determine whether the data and evidence available supports OSHA's efforts to promulgate an ergonomics regulation. However, the activities of the Panel seem to be either shrouded in an aura of secrecy or veering off course.

To date, we have been able to ascertain only certain bits and pieces regarding the Panel's activities. These bits and pieces have lead us to believe that the Panel is exceeding its mandate and is pursuing an agenda that is inconsistent with the authorizing legislation. One example of this is the Panel visiting Ford Motor Company to review its ergonomics program. This clearly goes beyond the legislated scope of studying the available literature. The goal of this study is simply to determine what the state of the scientific evidence is, so that an objective determination of whether there is sufficient evidence to support an OSHA regulation in this area can be made. The Panel is not authorized to develop a unified theory of what ergonomics programs should contain. Anything beyond or inconsistent with the legislative mandate would in all likelihood not be authorized and thus not acceptable or fundable.

The Panel's specific charge was expressed in the seven questions contained in the House Labor, Health and Human Services and Education Appropriations Report for FY 1999 and originally proposed by Congressman Livingston (Attachment 1). Your letter of June 18, 1999 reiterated your organizations' commitment to using those questions as the "focus" of this project. However, the contract executed between NAS and the Department of Health and Human Services, through the National Institute of Occupational Safety and Health, contains the "Statement of Task" drawn up by the NRC/IOM (Attachment 2), which lists six tasks to be pursued by the panel rather than the seven questions posed by Congressman Livingston. These tasks obfuscate the original questions and in so doing, deviate significantly from the original seven questions posed by Congressman Livingston and captured in the House report. Accordingly, it is our opinion that the intent of Congress was clearly and explicitly stated in the

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seven questions and that these questions laid out the scope of work for the Panel's efforts.

A recent review conducted by the Congressional Research Service (Attachment 3) points out the various ways in which the Tasks do not match the Questions posed by Congress. For example, Question 1 asks, "what are the conditions affecting humans that are considered to be work-related MSDs?" The CRS analysis concludes: "This would seem to call for a listing of specific injury types or syndromes in the MDS category that are 'work-related'. The contract does not explicitly provide for such a listing."

Question 3 from Congressman Livingston, asks for the "state of knowledge, characterized by the degree of certainty or lack thereof, with regard to occupational and non-occupational activities causing [musculoskeletal disorders]." Instead, Task 2 (the closest in content to Question 3) seeks to "examine the research literature on the individual and non-work related activities that can contribute to or help prevent or remediate musculoskeletal disorders." CRS concludes that the "approach taken...may differ in emphasis from what some may have expected." We would add that this is an entirely different approach than what was requested, as "examine" does not mean the same thing as stating the level of knowledge, or characterizing the degree of certainty on this subject--an objective which is not included in any of the tasks. The CRS analysis also notes that "Task 5 of the contract is not explicitly related to the mandated questions."

As a result of these discrepancies and others, we are concerned about whether or not the Panel is:

- 1) being responsive to its mandate;
- 2) proceeding appropriately; and
- 3) spending appropriated funds as Congress intended.

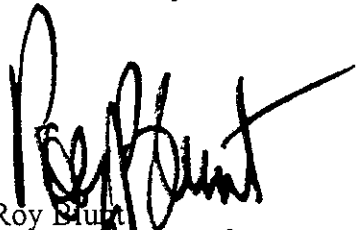
Accordingly, we are requesting the HHS Office of Inspector General to conduct a review of the oversight being conducted by NIOSH of this contract. In addition, we are also asking the Inspector General to examine whether the allocated funds have been spent consistent with the Congressional mandate.

With the publication by OSHA of their proposed ergonomics regulation, and Assistant Secretary Jeffress' expressed intent to conclude the rulemaking before the end of this year, whether the NAS study will have any relevance is now a matter of great concern and speculation. Because of the lack of communication between NAS and Congress, we have no way of determining whether the Panel is proceeding according to its mandate.

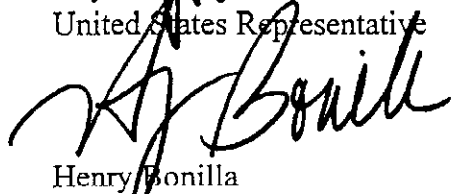
For these and other reasons we request a detailed oral briefing during the week of April 3 so that we can be "apprised of all aspects of this project" as was promised in your letter of June 18, 1999. As part of this briefing, please be prepared to provide all documents pertaining to the Panel's use of Congressionally appropriated funds, including but not limited to, receipts and

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expense reports, contracts or authorizing letters describing the project and its scope, and all committee meeting minutes. These documents should be provided to Marc Freedman of the Senate Committee on Small Business by noon on March 29. He can be reached at 202-224-5175. Thank you in advance for your corporation in this matter.

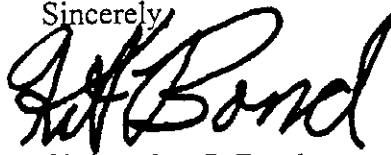


Roy Blunt  
United States Representative



Henry Bonilla  
United States Representative

Sincerely,



Christopher S. Bond  
United States Senator

cc: HHS Inspector General June Gibbs Brown

Enclosures: Congressman Livingston's Original Seven Questions  
NRC/IOM Statement of Task  
CRS Comparison of Ergonomics Research Contract with Legislative Mandate

## APPENDIX A

FY 1999 Appropriations Conference Report Language

*NAS Study*

Office of the Secretary Account (DHHS):

House Committee Report Language:

National Academy of Sciences Study. --The Committee has provided \$890,000 for a contract with the National Academy of Sciences (NAS) to conduct a study of all the available scientific literature examining the cause-and-effect relationship between repetitive tasks in the workplace and musculoskeletal disorders. The NAS study should address the following questions: (1) what are the conditions affecting humans that are considered to be work-related musculoskeletal disorders; (2) what is the status of medical science with respect to the diagnosis and classification of such conditions; (3) what is the state of knowledge, characterized by the degree of certainty or lack thereof, with regard to occupational and non-occupational activities causing such conditions; (4) what is the relative contribution of any causal factors identified in the literature to the development of such conditions in the general population, specific industries, and specific occupational groups; (5) what is the incidence of such conditions in the general population, specific industries, and specific occupational groups; (6) does the literature reveal any specific guidance to prevent the development of such conditions in the general population, specific industries, and specific occupational groups; and (7) what scientific questions remain unanswered, and may require further research, to determine which occupational activities in which specific industries cause and contribute to work-related musculoskeletal disorders.

NATIONAL ACADEMY OF SCIENCES/NATIONAL RESEARCH COUNCIL/  
INSTITUTE OF MEDICINE

Commission on Behavioral and Social Sciences and Education  
Division on Education, Labor, and Human Performance

and

Institute of Medicine  
Division of Health Sciences Policy

MUSCULOSKELETAL DISORDERS AND THE WORKPLACE

Project Summary

In response to a congressional request (Hrpt. 105-635) the Department of Health and Human Services' National Institute of Occupational Safety and Health (NIOSH) and the National Institutes of Health (NIH) have asked the National Academy of Sciences/National Research Council/Institute of Medicine (hereafter referred to as the Academy Complex) to conduct a study of the state of scientific knowledge relevant to work-related musculoskeletal disorders. The congressional request raises a set of questions about causation, diagnosis, and prevention of musculoskeletal disorders. It asks as well about research needs (Appendix A).

The study proposed here builds on the work of a National Research Council steering committee that conducted a Workshop on Work-Related Musculoskeletal Injuries in August of 1998. In its report (National Research Council, 1998) the steering committee provided a framework for examining the multiplicity of factors that can contribute to musculoskeletal disorders and developed an approach for assessing the strength of the causal links. The framework, shown in Appendix B, was used to organize the evidence presented at the workshop and will be used as a starting point for the study proposed here. It portrays the physiological pathway from load to response to impairment and disability and identifies the factors that can potentially affect the functioning of the mechanisms in the physiological pathway. The steering committee's review of the evidence led to the following major conclusions. First, there is a higher incidence of reported pain, injury, loss of work, and disability among individuals who are employed in occupations where there is a high level of exposure to physical loading than for those employed in occupations with lower levels of exposure. Second, there is strong biological plausibility to the relationship between the incidence of musculoskeletal disorders and the causative exposure factors in high-exposure occupational settings. Third, research clearly demonstrates that specific interventions can reduce the reported rate of musculoskeletal disorders for workers who perform high-risk tasks.

The new study will expand upon the steering committee's examination of the biological responses of tissues (muscles, tendons, and nerves) to biomechanical stressors; work factors and biomechanics; and the interplay of individual factors, environmental factors, and work stressors.

Six complementary tasks, designed to be responsive to the seven questions posed by Congress, are proposed:

- Task 1 assesses the state of the medical and biomechanical literature describing the models and mechanisms characterizing the load response relationships and the consequences (adaptation, impairment, disability) for musculoskeletal structures of the neck, the upper extremities, and the low back.
- Task 2 evaluates the state of the medical and behavioral science literature on the character of jobs and job tasks, the conditions surrounding task performance, and the interactions of person, job, and organizational factors and the research literature on the individual and non-work related activities that can contribute to or help prevent or remediate musculoskeletal disorders. This task will also include a review and application of the methodological literature on risk analysis and decision making under conditions of uncertainty.
- Task 3 assesses the strengths and weaknesses of core data sets that form the basis for examining the incidence and epidemiology of musculoskeletal disorders reported in the workplace. The central focus is to determine if improvements can be made in current surveillance systems that would provide more accurate answers to questions about work-related musculoskeletal disorders.
- Task 4 examines programs and practices associated with primary, secondary, and tertiary prevention of musculoskeletal injuries, ranging from organization-wide promotion of a safety culture to modified work and a variety of clinical treatment programs. The goal is to evaluate the current state of the art and, if possible, identify promising approaches to reducing the incidence of injury.
- Task 5 will focus on the future of work, how the workforce and jobs are changing and the potential impact of these changes on the incidence of musculoskeletal disorders.
- Task 6 will characterize the most important gaps in the science base and recommend needed research.

The proposed study will be conducted according to established policies and procedures which are designed to ensure that the Academy Complex provides independent, objective, science-based advice to government. A study committee of approximately 14 experts, drawn from such fields as occupational medicine, orthopedics, physiology, biochemistry, epidemiology, psychology, biomechanics, human factors engineering, and quantitative analysis, will be assembled to conduct the investigation. It is anticipated the study will require 24 months.



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## *Memorandum*

February 7, 2000

TO : Senate Committee on Small Business  
Attention: Marc Freedman

FROM : Edward Rappaport  
Analyst in Industry Economics  
Domestic Social Policy Division

SUBJECT : Comparison of Ergonomics Research Contract with Legislative  
Mandate

As you requested, we comment here on how a current research contract with the National Academy of Sciences (NAS) compares with the stated intent of Congress in funding the study via the Fiscal 1999 appropriations for the Department of Health and Human Services (HHS). \$890,000 was allocated for this contract within the account for "General Departmental Management" in the Office of the Secretary of HHS, and it was to study "all the available scientific literature examining the cause-and-effect relationship between repetitive tasks in the workplace and musculoskeletal disorders." As we agreed, the analysis here consists of comparing (1) the report language of the House Appropriations Committee, with (2) the plan of action spelled out in the contract, a copy of which you have provided to us.<sup>1</sup>

What follows is not to be taken as a legal analysis of whether the contract complies with the statutory provisions, but is intended only as a commonsense reading of these documents.

The House appropriations report lays out seven specific questions to be addressed by the study, and we will structure these comments according to that schema. (The Plan of Action in the contract divides the work into six "tasks.")

Question 1 asks "what are the conditions affecting humans that are considered to be work-related musculoskeletal disorders" (MSDs). This would seem to call for a listing of specific injury types or syndromes in the MSD category that are "work related." The contract does not explicitly provide for such a listing. It is possible, though, that the NAS will address this issue in some form as part of its Task 1, where it will review the literature on "medical procedures for diagnosing and classifying musculoskeletal conditions."

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<sup>1</sup> NAS Revised Proposal No. 99-CBSSE-131-01. p. 6-8.



Question 2 asks for an assessment of the state of the art with respect to diagnosis and classification of MSDs. As just noted, NAS Task 1 deals with this issue.

Question 3 asks for an assessment of the state of the art with respect to “occupational and non-occupational activities” causing MSDs. Question 4 is closely related to Question 3, as both inquire into causation. Question 4 asks, “what is the relative contribution of any causal factors identified in the literature to the development of such conditions in the general population, specific industries, and specific occupational groups.” Generally speaking, Tasks 1 and 2 of the contract address the issue of causation. The approach taken, however, may differ in emphasis from what some may have expected. Task 1 in particular proposes to pay particular attention to the physiological mechanisms through which stresses on the body lead to impairment and disability. “Causation” is taken to include an understanding, as far as possible, of the whole causal chain of events. This may be more than what some may believe they need for future legislative consideration. On the other hand, Task 1 does not seem to distinguish between work and non-work activities; it considers stresses as physical phenomena independent of the social or economic context. Task 2 focuses more on that dimension by relating injuries and causal factors to job types, industries, etc. Moreover, Task 2 will consider “personal factors that workers bring to the job.”

Question 5 asks about the “incidence” of MSDs in various contexts. Task 2 would seem to address this by the “prevalence” of such injuries by job type, industry, etc.

Question 6 asks what “specific guidance to prevent the development of such conditions” can be found in the scientific literature. This is generally addressed by Task 4, which mentions the categories of “organizational safety processes,” best practices among “targeted prevention strategies,” and “treatment strategies.” The last of these might be considered to go beyond the intent of the mandate, as it deals with mitigating impairments that have already begun, as opposed to “prevention” strictly construed.

It may also be noted that Task 4 appears exclusively concerned with the work context, while Question 6 asks about prevention among the general population as well as occupations and industries.

Question 7 asks about the need for further research, which is addressed by Task 6.

Finally, we note that Task 5 of the contract is not explicitly related to the mandated questions. Task 5 is to “examine the implications of the changing nature of work.” This may be useful to policymakers by illuminating the future effects of rules that are adopted in the present. However, the legislated mandate is generally stated in terms of workplaces as they currently exist.

If you have any further questions, please call me at extension 7-7740.